

Remarks

The applicant has carefully considered the Office action dated May 5, 2006, and the art cited therein. Claims 1-6, 8-11 and 22-26 are pending and at issue in the above identified patent application. Of the claims at issue, claims 1 and 22 are independent. In view of the following remarks, reconsideration and allowance of the application are respectfully requested.

The Rejections Under 35 U.S.C. §§ 102 & 103

Claims 1-6 and 8-11

Independent claim 1 is directed to an external cavity optical transmitter and recites, *inter alia*, a gain chip to emit optical energy, the gain chip including a reflective portion, a grating to receive optical energy emitted by the gain chip, and a reflector to receive optical energy reflected from the grating, the reflector and the reflective portion of the gain chip forming an optical resonant structure. Additionally, claim 1 recites a processing unit coupled to the actuator to position the lens at a location to select a wavelength of operation of the optical resonant structure, wherein during transmitter operation the processing unit varies the position of the lens to maintain the selected wavelength of operation of the optical resonant structure.

Claim 1 was rejected as being anticipated by Jerman (US 2001/0036206). Jerman describes various configurations of tunable lasers, each of which is frequency tuned by either pivoting reflectors or by pivoting gratings. That is, during operation of the Jerman-described systems, each of the systems moves either a grating or a reflector to keep the system lasing, or operating, at the desired wavelength.

In contrast to the systems of Jerman, claim 1 recites a processor that varies a lens position to maintain selected wavelength of operation of the optical resonant structure. That is, claim 1 recites that lens position is used to maintain wavelength tuning, whereas Jerman describes systems in which resonant components such as gratings or reflectors are moved or pivoted to maintain their operating frequencies. The operating principles between Jerman and claim 1 are clearly different (i.e., move a lens for tuning versus move gratings or

reflectors for tuning). Based on these fundamental differences in operation, it is respectfully submitted that claim 1 and its dependents are allowable over Jerman.

The applicant notes that paragraph 0117 of Jerman describes how a position of a collimating lens may be manipulated to control output power of a tunable laser. In particular, a portion of paragraph 0117 appears to describe a startup condition during which a position of a collimating lens may be set as a function of desired wavelength. However, it is respectfully submitted that claim 1 is distinguishable over such a statement in Jerman because the statement is pertinent to a startup condition after which collimating lens position is manipulated based on output power. Thus, this portion of Jerman does not describe or suggest varying lens position to maintain the selected wavelength of operation. At best, this portion of Jerman describes how to set an initial lens position and, subsequently, how to maintain a desired output power through lens position manipulation. Again, it is respectfully submitted that claim 1 and its dependents are not anticipated by Jerman and allowance of these claims is respectfully requested.

Claims 22-26

Claim 22 is directed to a method of assembling an external cavity optical transmitter. The recited method includes, *inter alia*, placing a grating assembly and a mirror on a substrate in fixed manners and changing a positional setting of an actuator to cause a lens to be translated to a position that yields a desired wavelength of operation.

As explained above, each of the systems of Jerman appears to include either a movable grating or a movable reflector, each of which is used to tune the frequency of the laser. In contrast, claim 22 recites that the grating and the mirror placed in a fixed manner and the at the positional setting of an actuator is used to cause a lens to be translated to a position yielding a desired operating wavelength. Thus, it is respectfully submitted that claim 22 and the claims dependent thereon are in condition for allowance.

Conclusion

Reconsideration of the application and allowance thereof are respectfully requested. If there is any matter that the examiner would like to discuss, the examiner is invited to contact the undersigned representative at the telephone number set forth below.

Additionally, the undersigned respectfully requests the examiner to provide the undersigned with initialed copies of all Form PTO-1449s that have been filed in the case.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Mark C. Zimmerman', is written over a horizontal line.

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